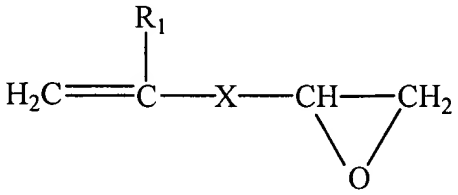
(b) one or more diluent monomers or polymers, wherein the diluent monomers or polymers are selected from the group consisting of acrylics, vinyls, nylons, polyurethanes, and polyethers,

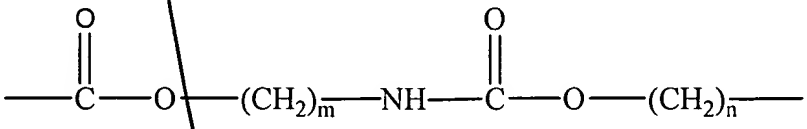
wherein the copolymer is attached to the surface of the substrate by formation of a covalent bond and the epoxy group can form a covalent bond with the target molecule.

2. (Once Amended) A reagent composition according to claim 1 wherein the monomer having a pendant epoxide group is selected from the group consisting of glycidyl acrylate, glycidyl methacrylate, allylglycidyl ether, and glycidyl vinyl ether.

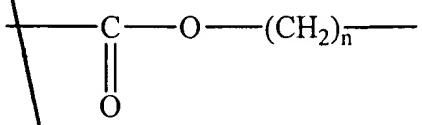
3. (Once Amended) A reagent composition according to claim 1 wherein the monomer having a pendant epoxide group is of the formula:



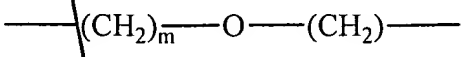
where R_1 is either CH_3 or H and X is a radical selected from the group:



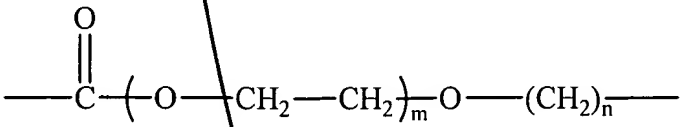
where m = 2-6 and n = 1-10;



where n = 1-10



where m = 0 or 1; or



where m = 1-20 and n = 1-10.

4. (Once Amended) A reagent composition according to claim 1 wherein the reagent composition comprises a copolymer synthesized by reacting hydroxyl- or amine-containing polymers with diepoxides.

8. (Once Amended) A reagent composition according to claim 1 wherein the composition further comprises one or more photoreactive groups for covalently attaching the reagent composition to the surface upon application of energy from a suitable source.

29. (New) A reagent composition for attaching a target molecule to the surface of a substrate, the reagent composition comprising a copolymer formed by reacting a mixture comprising:

(a) one or more monomers having pendant epoxy groups in an amount of 5 to 25 mole percent based on the weight of the copolymer;

(b) one or more diluent monomers or polymers, wherein the diluent monomers or polymers are selected from the group consisting of acrylics, vinyls, nylons, polyurethanes, and polyethers; and

(c) one or more monomers having a photoreactive group in an amount of 0.1 to 5 mole percent based on the weight of the copolymer,

wherein the photoreactive group can form a covalent bond with the surface of the substrate to attach the copolymer to the substrate and the epoxy group can form a covalent bond with the target molecule.

30. (New) The reagent composition of claim 29, wherein the diluent monomers or polymers are hydrophilic.

31. (New) The reagent composition of claim 29, wherein the diluent monomer is an acrylamide or a vinyl pyrrolidone.

32. (New) The reagent composition of claim 29, wherein the photoreactive group is an aryl ketone.